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REYNOLDS

**Metalart**

**extruded aluminum**

**double-hung**

**windows**

**residential**

**commercial**

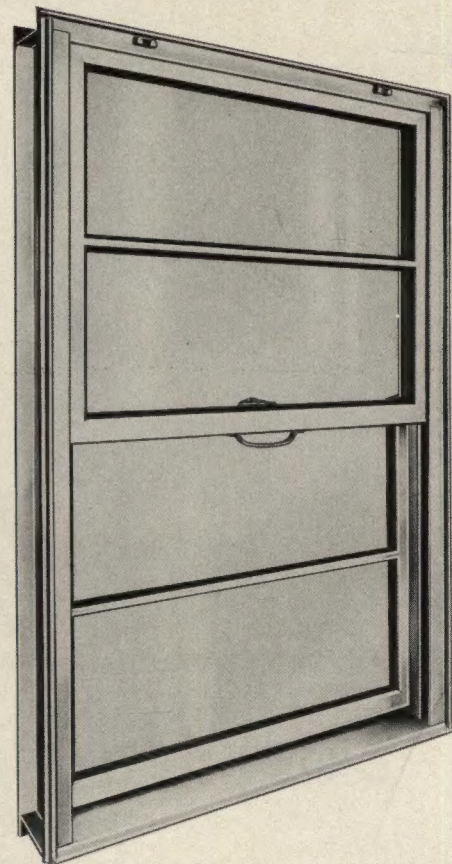


**Metal Arts Manufacturing Co., Inc.**

**P. O. Box 4144, Atlanta, Georgia**



# Metalart precision double-hung aluminum windows DH-A1 and DH-A2\*



For all types of wall construction in any climate, aluminum windows give you all the features called for in good home planning. No other materials meet these requirements.

## **Performance Deluxe**

Precision engineered aluminum windows close completely, yet open with little effort — and you can depend on them year after year.

## **Unbeatable Economy**

You will be amazed at the low initial cost, yet your real dividend is paid as the years go by. Other windows may rust, decay, warp or swell, but aluminum windows continue to operate smoothly without attention. Anticipated maintenance funds can stay in the bank. Painting is never required.

## **Heating Cost Reduced**

Flexible stainless steel and Neoprene weatherstripping mean less air infiltration. Make both heating and air-conditioning more efficient.

## **Lasting Beauty**

Strong lightweight aluminum extrusions mean handsome lines, functional design — permit more light for a given opening. Aluminum harmonizes with any

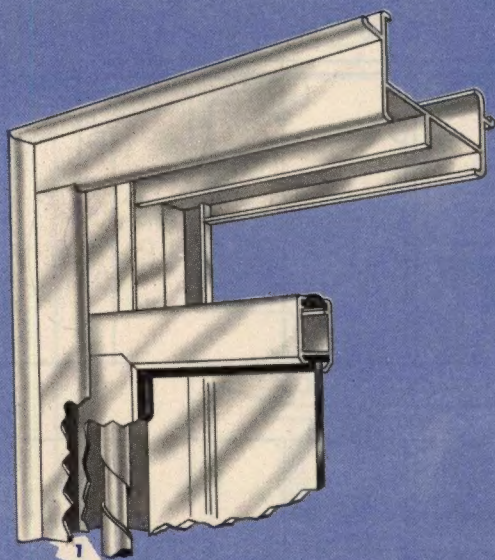
type surrounding and blends with all colors.

## **The Metalart Residential Double-Hung Window**

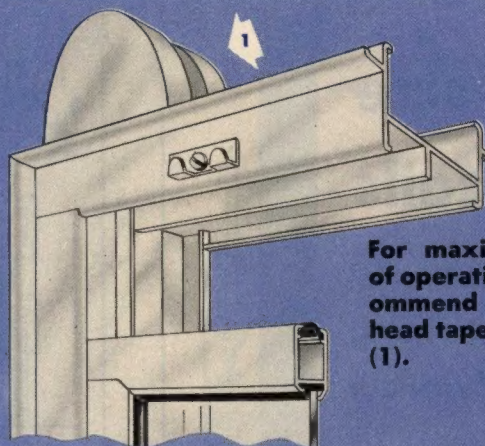
When buying double-hung windows for residences, apartments, schools, and other small buildings, always specify and insist on METALART, because no other residential window offers all features shown on this page. We have the only residential window with a sturdy 3½"-wide frame. METALART offers lifetime factory Neoprene glazing which Metal Arts pioneered or windows can be field glazed with compound if desired. You have your choice of either adjustable spiral balances concealed in the sash, or sturdy overhead mounted stainless steel tape balances. All hardware is stainless steel. The sweep lock is adjustable so that the windows can at all times be closed tightly. Screens are available either full-length or half-length with aluminum frames. For added economy, we offer an efficient full-length frameless tension type screen which can be rolled up for storage when not in use. All of the above are screened with replaceable aluminum wire cloth. Picture windows in a variety of sizes are furnished.

\*See page 11 for DH-A2 specifications.



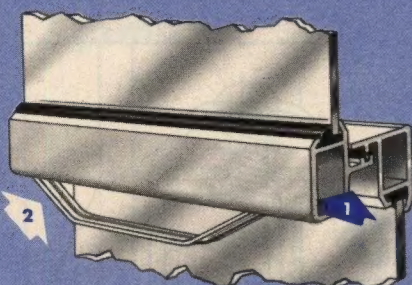


Standard window features adjustable spiral balance (1) concealed in sash. Overhead balance shown opposite is optional.



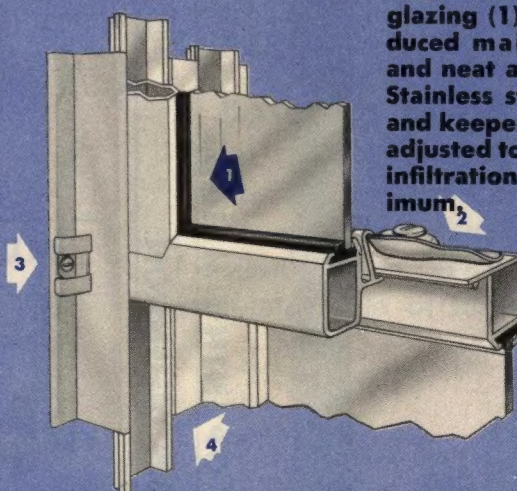
For maximum ease of operation, we recommend the overhead tape balance\* (1).

Lifetime Neoprene glazing (1) means reduced maintenance and neat appearance. Stainless steel sweep and keeper (2) can be adjusted to reduce air infiltration to a minimum.

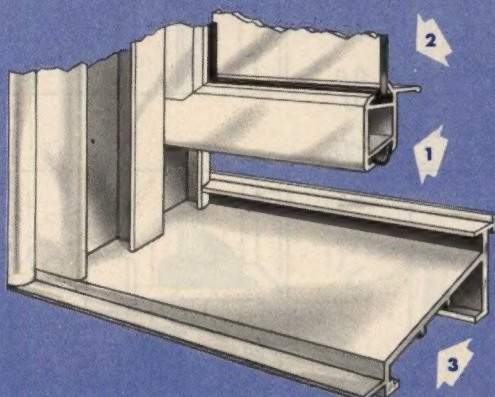


Window is tightly sealed at meeting rails with Neoprene weatherstrip (1). Sturdy handle (2) is provided for operation of upper sash.

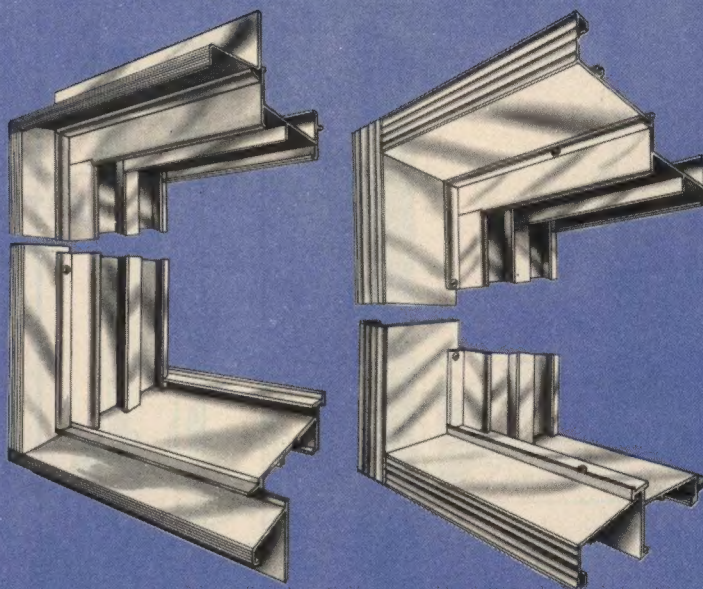
Screen stabilizer (3) holds frame screen to jamb of window.



Stainless steel jamb weatherstrip (4) reduces air infiltration at jambs to minimum and prevents contact between similar metals.



At head and sill, air infiltration is held to a minimum by pliable Neoprene weatherstrip (1). Note the integral full length lower sash lift (2). Sill (3) has recess for proper screen closure—reinforcing ribs for added strength and integral interior condensation retainer.



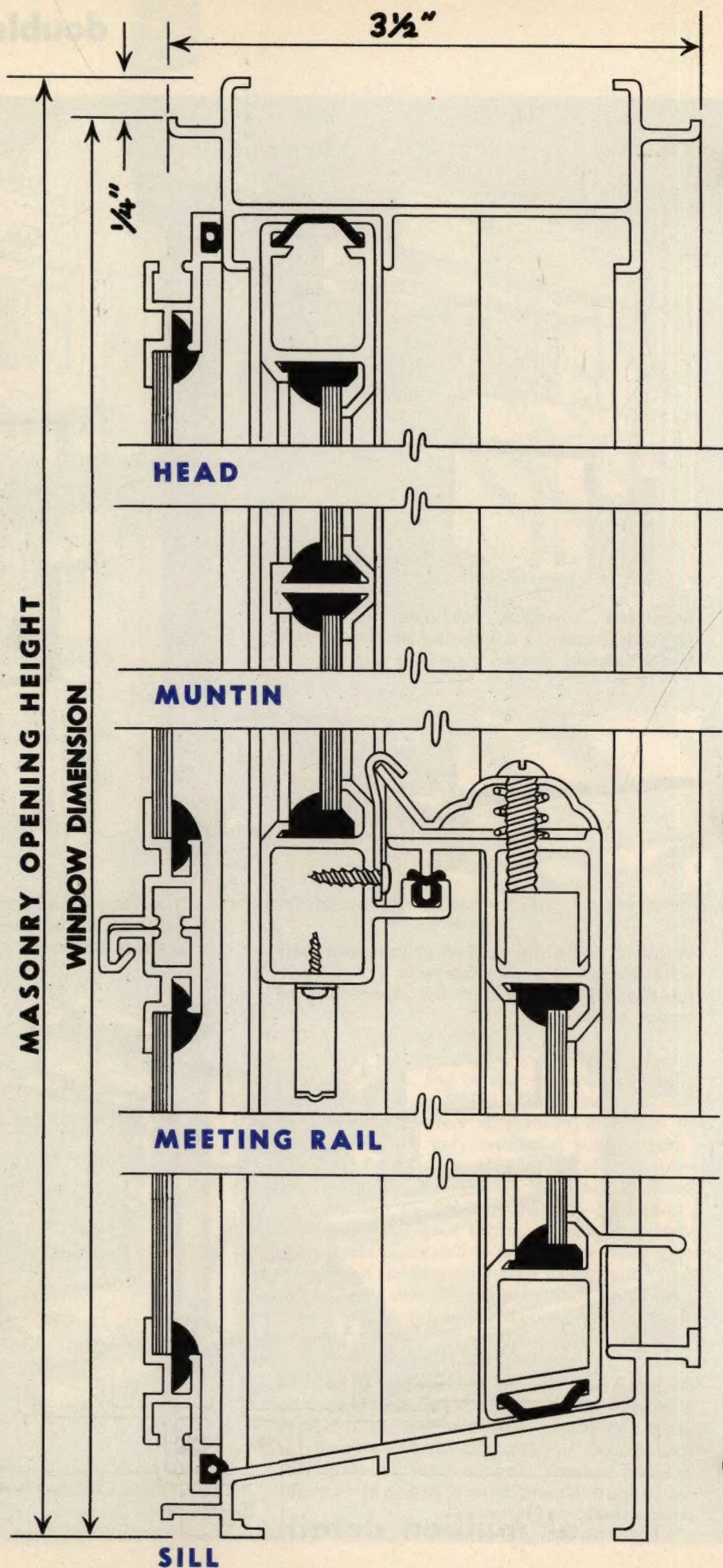
Check with your dealer for information about our beautiful extruded interior and exterior aluminum trim.\*

\*Available at additional cost.



# full size details

100-E residential  
double-hung  
window



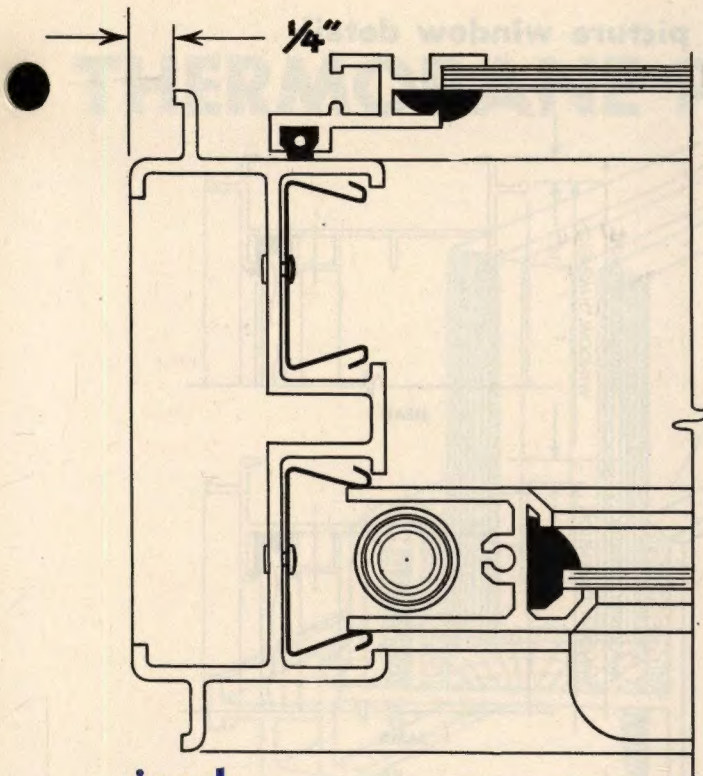




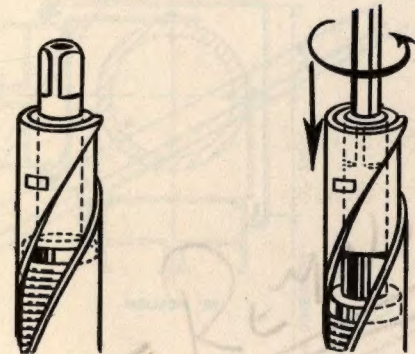
## double-hung windows

full size details

16a  
Met

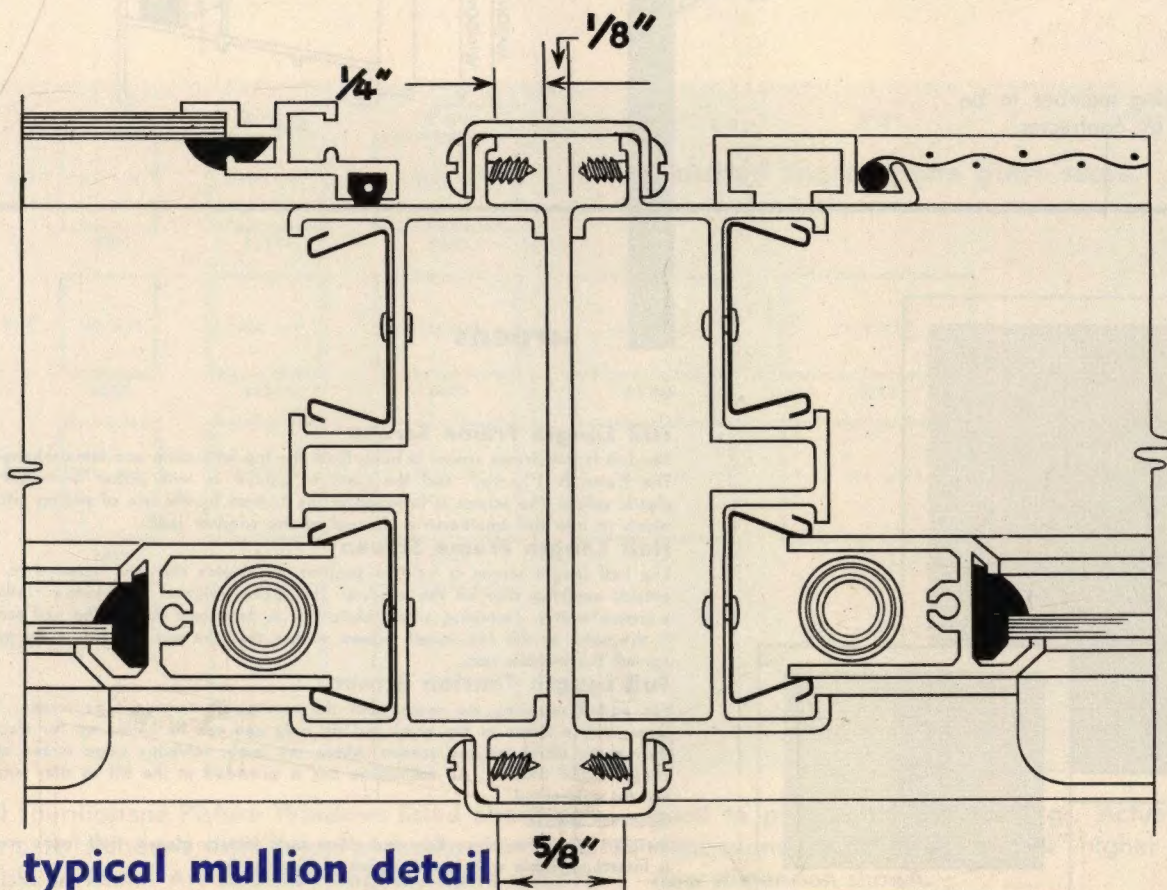


jamb



### balance adjustment

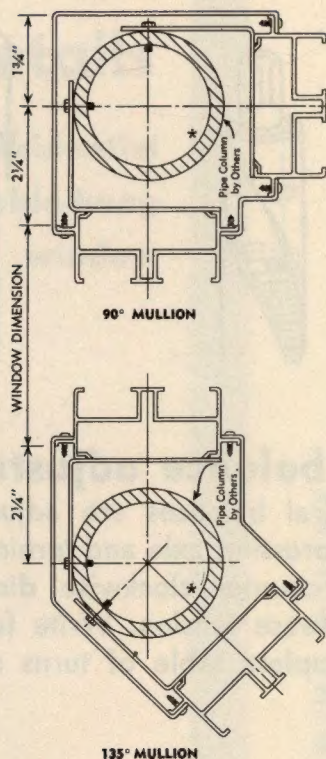
Spiral balances are adjustable by depressing axle and turning wrench in counter-clockwise direction to increase tension. Write factory for complete table of turns necessary.



typical mullion detail

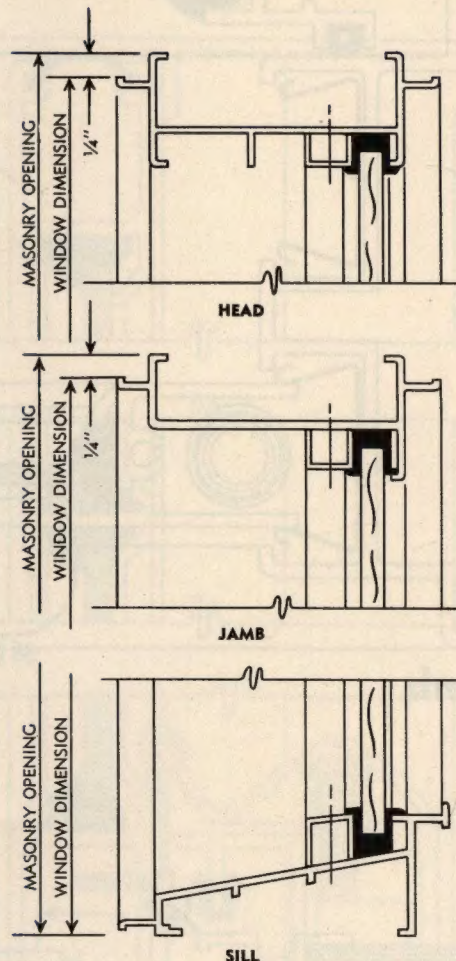


## load-bearing mullion detail



\*Load bearing member to be furnished by contractor

## picture window detail



## screens

### Full Length Frame Screen

The full length frame screen is hung from the top with male and female hangers. The frame is 1" x 3/16" and the cloth is splined in with either aluminum or plastic spline. The screen is fastened at the bottom by the use of sliding latches which fit into the weatherstrip channel of the window jamb.

### Half Length Frame Screen

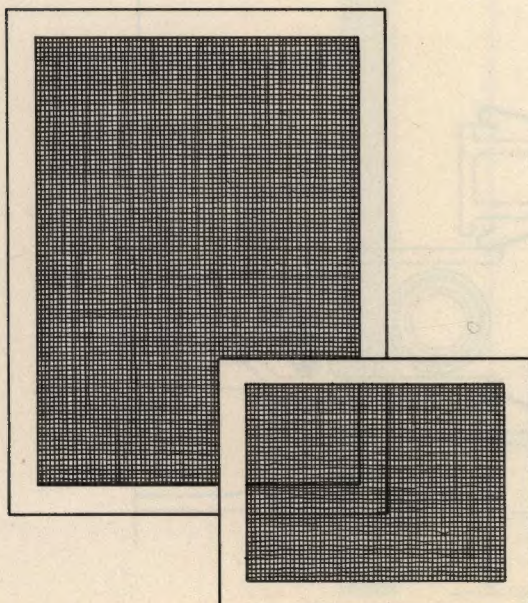
The half length screen is held in position by shields that are fastened to the outside caulking stop on the window. This makes removal for window cleaning a simple matter. Fastening at the bottom is as described above. The half screen is the same as the full length screen except that the top rail has a lip to fit against the window sash.

### Full Length Tension Screen

For added economy we recommend the serviceable tension type screen. This screen has a frame at the head and sill only and can be rolled up for storage during the storm window season. Along the jamb, selvage edge screen cloth clings to the window. An adjustable bar is provided at the sill so that tension can be maintained.

### Storm Sash

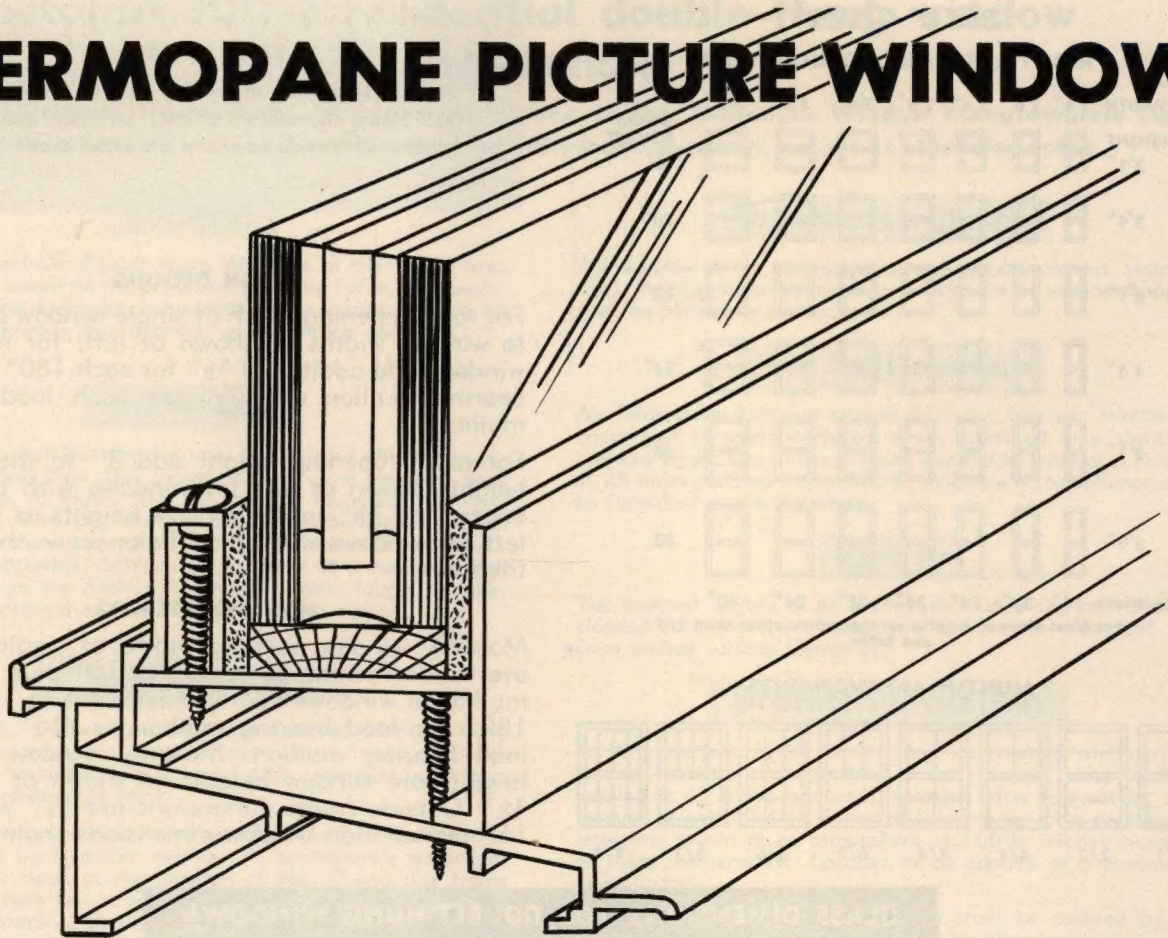
Metalart offers two-piece extruded storm sash, factory glazed. Half frame screen is interchangeable with lower section of storm sash.







# ● THERMOPANE PICTURE WINDOW



4'-3"		4'-11"		6'-3"		6'-11"		8'-3"		9'-11"	
4'-1"		4'-5"		4'-9"		4'-11"		5'-3"		5'-9"	
*48½" x 46"		*48½" x 50"		*56½" x 46"		*56½" x 50"		*72½" x 46"		*72½" x 50"	
4341		4345		41141		41145		6341		6345	
								*80½" x 20"		*96½" x 50"	
								61145		8345	
5'-1"		5'-5"		5'-9"		5'-11"		6'-3"		6'-9"	
*48½" x 38"		*48½" x 38"		*56½" x 38"		*56½" x 38"		*72½" x 38"		*72½" x 38"	
4351		4355		41151		41155		6351		6355	
								*80½" x 38"		*96½" x 38"	
								61151		8351	
										*116½" x 38"	
										91151	



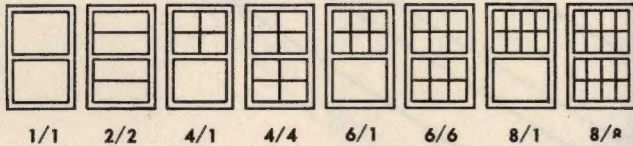
## size chart

### HEAVY EXTRUDED MODULAR SIZES

WIDTH	1'8"	2'0"	2'4"	2'8"	3'0"	3'4"	3'8"	GLASS HEIGHT
HEIGHT 3'1"								16"
3'9"								20"
4'1"								22"
4'5"								24"
5'1"								28"
5'9"								32"
Glass Width 16" 20" 24" 28" 32" 36" 40"								

For glass sizes of muntin arrangements other than 1/1 see table

### MUNTIN ARRANGEMENTS



### STYLE NUMBER

Actual dimensions of window are 1/2" wider and 1/4" higher than shown at left. Style No. indicates window dimension as shown on detail drawings.

### ROUGH OPENING

For rough opening width of single window add 1 3/4" to window widths as shown at left; for mullioned windows add additional 5/8" for each 180° non-load bearing mullion or 4 1/2" for each load bearing mullion.

For rough opening height add 3" to the window heights shown at left for windows with tape balances; add 7/8" to the window heights as shown at left for windows with spiral balances in the side of the sash.

### MASONRY OPENING

Masonry window opening widths of single window are window widths as shown at left plus 3/4", for mullioned windows add an additional 5/8" for each 180° non-load bearing mullion or 4 1/2" for each load bearing mullion. Masonry window opening heights are window heights as shown at left plus 3/8". Outside frame dimensions are 1/2" wider and 1/4" higher than window dimensions shown at left.

## GLASS DIMENSIONS FOR DOUBLE-HUNG WINDOWS

Style No.	Area Sq. Ft.	1/1	2/2	4/4	6/6	8/8
1831	3.37	16"x16"	16"x7 13/16"	7 13/16"x7 13/16"		
1839	4.23	16"x20"	16"x9 13/16"	7 13/16"x9 13/16"		
1841	4.66	16"x22"	16"x10 13/16"	7 13/16"x10 13/16"		
1845	5.08	16"x24"	16"x11 13/16"	7 13/16"x11 13/16"		
1851	5.95	16"x28"	16"x13 13/16"	7 13/16"x13 13/16"		
1859	6.81	16"x32"	16"x15 13/16"	7 13/16"x15 13/16"		
2031	4.23	20"x16"	20"x7 13/16"	9 13/16"x7 13/16"		
2039	5.31	20"x20"	20"x9 13/16"	9 13/16"x9 13/16"		
2041	5.85	20"x22"	20"x10 13/16"	9 13/16"x10 13/16"		
2045	6.38	20"x24"	20"x11 13/16"	9 13/16"x11 13/16"		
2051	7.76	20"x28"	20"x13 13/16"	9 13/16"x13 13/16"		
2059	8.57	20"x32"	20"x15 13/16"	9 13/16"x15 13/16"		
2431	5.08	24"x16"	24"x7 13/16"	11 13/16"x7 13/16"	7 3/4"x7 13/16"	
2439	6.38	24"x20"	24"x9 13/16"	11 13/16"x9 13/16"	7 3/4"x9 13/16"	
2441	7.45	24"x22"	24"x10 13/16"	11 13/16"x10 13/16"	7 3/4"x10 13/16"	
2445	7.71	24"x24"	24"x11 13/16"	11 13/16"x11 13/16"	7 3/4"x11 13/16"	
2451	9.32	24"x28"	24"x13 13/16"	11 13/16"x13 13/16"	7 3/4"x13 13/16"	
2459	10.48	24"x32"	24"x15 13/16"	11 13/16"x15 13/16"	7 3/4"x15 13/16"	
2831	5.95	28"x16"	28"x7 13/16"		9 1/16"x7 13/16"	
2839	7.76	28"x20"	28"x9 13/16"		9 1/16"x9 13/16"	
2841	8.27	28"x22"	28"x10 13/16"		9 1/16"x10 13/16"	
2845	9.32	28"x24"	28"x11 13/16"		9 1/16"x11 13/16"	
2851	10.97	28"x28"	28"x13 13/16"		9 1/16"x13 13/16"	
2859	12.02	28"x32"	28"x15 13/16"		9 1/16"x15 13/16"	
3031	6.81	32"x16"	32"x7 13/16"		10 7/16"x7 13/16"	
3039	8.57	32"x20"	32"x9 13/16"		10 7/16"x9 13/16"	
3041	9.43	32"x22"	32"x10 13/16"		10 7/16"x10 13/16"	
3045	10.48	32"x24"	32"x11 13/16"		10 7/16"x11 13/16"	
3051	12.02	32"x28"	32"x13 13/16"		10 7/16"x13 13/16"	
3059	13.87	32"x32"	32"x15 13/16"		10 7/16"x15 13/16"	
3431	7.79	36"x16"	36"x7 13/16"		11 3/4"x7 13/16"	8 3/4"x7 13/16"
3439	9.75	36"x20"	36"x9 13/16"		11 3/4"x9 13/16"	8 3/4"x9 13/16"
3441	11.13	36"x22"	36"x10 13/16"		11 3/4"x10 13/16"	8 3/4"x10 13/16"
3445	11.67	36"x24"	36"x11 13/16"		11 3/4"x11 13/16"	8 3/4"x11 13/16"
3451	13.65	36"x28"	36"x13 13/16"		11 3/4"x13 13/16"	8 3/4"x13 13/16"
3459	15.63	36"x32"	36"x15 13/16"		11 3/4"x15 13/16"	8 3/4"x15 13/16"
3831	8.76	40"x16"	40"x7 13/16"		13 1/16"x7 13/16"	9 3/4"x7 13/16"
3839	10.85	40"x20"	40"x9 13/16"		13 1/16"x9 13/16"	9 3/4"x9 13/16"
3841	11.94	40"x22"	40"x10 13/16"		13 1/16"x10 13/16"	9 3/4"x10 13/16"
3845	13.07	40"x24"	40"x11 13/16"		13 1/16"x11 13/16"	9 3/4"x11 13/16"
3851	15.28	40"x28"	40"x13 13/16"		13 1/16"x13 13/16"	9 3/4"x13 13/16"
3859	17.50	40"x32"	40"x15 13/16"		13 1/16"x15 13/16"	9 3/4"x15 13/16"





## the metalart 100-E residential double-hung window

### SPECIFICATIONS

Metalart Aluminum Double-Hung Windows conforming to the Aluminum Window Manufacturers Association Specification DH-A1 shall be furnished for all window openings, except as otherwise noted.

#### general

Metalart Aluminum Double-Hung Windows of the types, sizes and styles as shown on the plans and as called for in this specification shall be furnished, completely weatherstripped, with all necessary hardware, and anchors, as hereinafter specified.

#### materials

The windows shall be manufactured of extruded aluminum sections of not less than .062 inches thick. Frame members shall be 3½-inches in width. The sill shall be designed with reinforcing ribs. Alloy and strength of the window members shall conform with the requirements of the Aluminum Window Manufacturers Association. Satisfactory evidence of compliance shall be furnished to the Architect. Wood, rubber, fabric, or other perishable materials are not to be used in the window.

#### construction

**A. GENERAL.** The windows shall be assembled with sash hung and adjusted, ready for shipment as a unit. Frame and sash members are to be fitted together in such a manner as to form a hairline, weathertight joint.

**B. FRAMES.** The window frame members shall be assembled in a secure and workmanlike manner. A permanently watertight joint shall be made at the junction of the sill and side frame members. Where two or more members are to be installed in a single wall opening, provision shall be made to assemble the abutting frame members into a structurally satisfactory vertical mullion.

**C. SASH.** Sash will be glazed at the factory with either single strength or double strength glass and Neoprene extrusions in accordance with the customer's specifications.

**D. MUNTINS.** The muntin bars shall be firmly secured at the cross-joints and at ends where attached to the abutting sash.

#### hardware

The windows shall be equipped with locks and lifts of stainless steel. Sash shall operate freely and be equipped with balancing mechanisms which will hold sash stationary at any open position. The mechanisms used shall be easily accessible.

#### weatherstripping

The window is to be equipped with double-contact stainless steel vertical weatherstripping. Horizontal weatherstripping shall be Neoprene extrusions.

#### air infiltration

Air infiltration shall not exceed ¾ cubic foot per minute per lineal foot of sash perimeters when subjected to a static air pressure equivalent to the pressure exerted by wind at a velocity of 25 miles per hour. Satisfactory evidence of compliance shall be furnished to the Architect.

#### finish

The exposed surface of all aluminum frames and sash shall be cleaned to make them reasonably uniform in color and free from serious surface blemishes.

#### protective coating

**A.** A protective finish of a clear water-white methacrylate lacquer, resistant to alkaline mortar, plaster, etc., shall be applied to all frame and sash members after fabrication, such lacquer to withstand the action of lime mortar for a period of at least one month in an atmosphere of 100% relative humidity at room temperature. Lacquer to be applied to a reasonably clean surface.

**B.** All exposed portions of window shall be cleaned by the owner with soap and water, followed by clear water rinse after the painting and finishing of the building is completed.

#### installation details

The window manufacturer shall furnish, in triplicate, standard details showing recommendations for the installation of the windows.

#### erection and caulking

The erection contractor shall set all windows straight, plumb and level, shall securely anchor them in place and install them according to the manufacturer's standard recommendations. The caulking contractor shall apply an approved caulking compound in the caulking recess between the caulking stop on the window and the adjacent construction materials.

#### installation instructions

1. Install window in locked position and keep it locked while trimming out.
2. Attach two jamb anchors to each jamb. Use jamb anchors to fasten 180° non-load bearing mullioned windows at the head and at the sill. For load bearing mullions use standard jamb anchors with nailing flange bent to 90° and fastened to load bearing pipe or other support behind outside mullion cover plate.
3. Check for plumb and level. Nail anchors to rough frame, install trim and caulk.
4. Keep wood window trim or finished masonry back from outside caulking stops by at least ⅛", then caulk this space shut.
5. Plaster to the back of inside plaster stop. Remove plaster from all window surfaces before it hardens.
6. Do not toe-nail trim tight against trim stops.

#### reglazing instructions

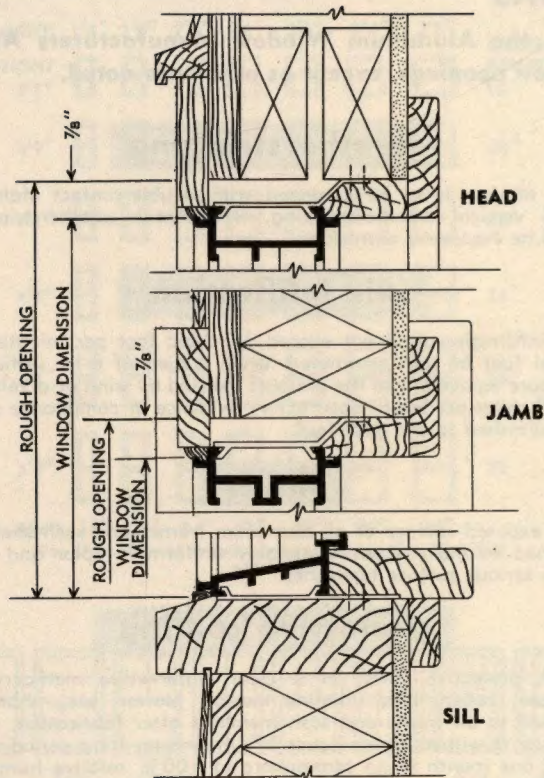
First space glass equally in sash opening by inserting flange of Neoprene at points around sash. Starting with free end of Neoprene extrusion at top center of sash, insert flange between edge of glass and aluminum sash frame. With screwdriver or other blunt instrument, push Neoprene in until it is compressed

against glass and secured behind ⅛" high aluminum glazing lip. Do not stretch Neoprene unduly. Wetting it makes it slippery and easier to insert. Windows may also be glazed with glazing compound, if desired.

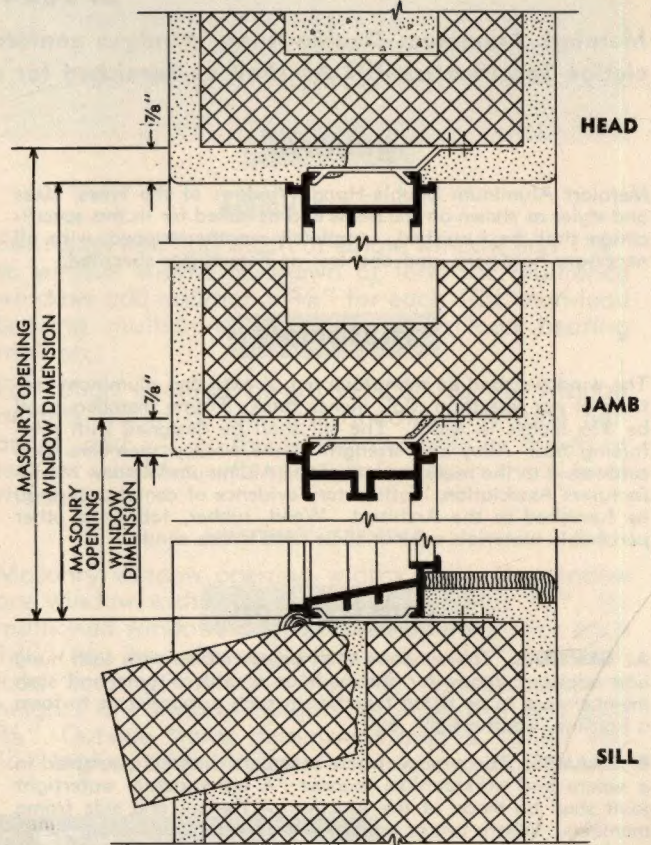


# installation details

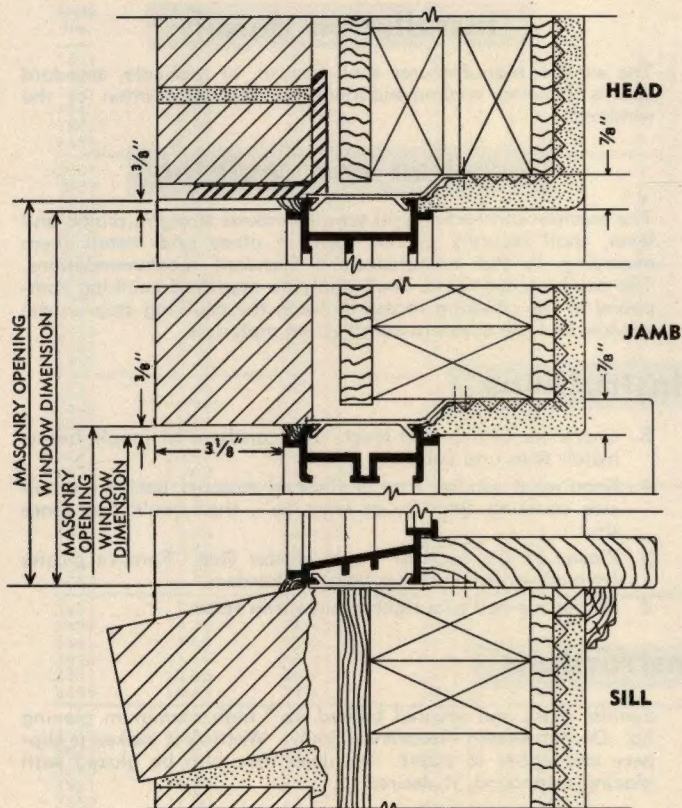
**frame, wood trim**



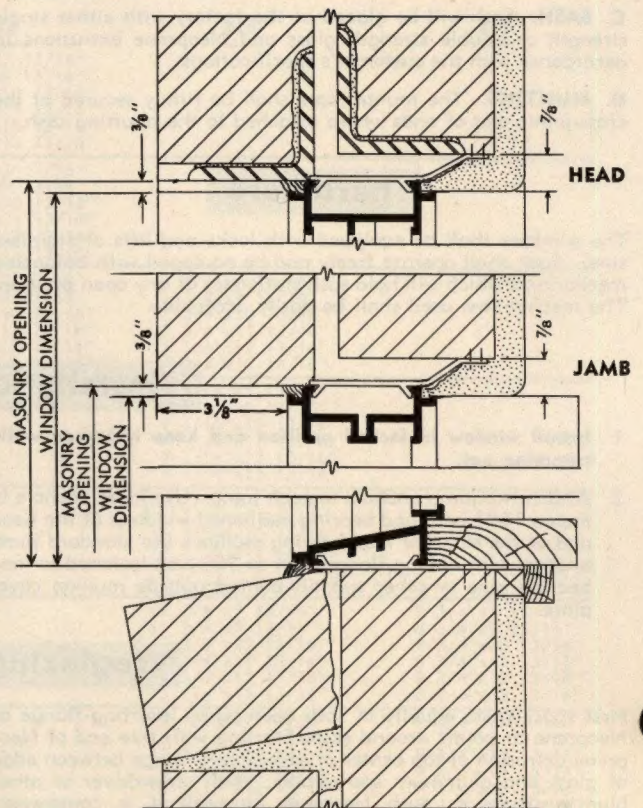
**concrete block, stucco and plaster**



**brick veneer**



**solid masonry**







## metalart series 1000-A commercial double-hung windows

## SPECIFICATIONS

Metalart Aluminum Commercial Double-Hung Windows conforming to the Aluminum Window Manufacturers Association Specification DH-A2 shall be furnished for all window openings, except as otherwise noted.

**General**

Metalart Aluminum Double-Hung Windows of the types, sizes and styles as shown on the plans and as called for in this specification shall be furnished, completely weatherstripped, with all necessary hardware, and anchors, as hereinafter specified.

**Materials**

Windows shall be manufactured from extruded aluminum sections of not less than .062 inches thick except sill section which shall not be less than .080 inches thick. All horizontal sash members shall be of tubular design. Alloy and strength of sections shall comply with the requirements of the Aluminum Window Manufacturers Association. Satisfactory evidence of compliance shall be furnished to the architect. Wood, rubber, fabric, or other perishable materials are not to be used in the window.

**Construction**

**A. GENERAL.** The windows shall be assembled with sash hung and adjusted, ready for shipment as a unit. Frame and sash members are to be fitted together in such a manner as to form a hairline, weathertight joint.

**B. FRAMES.** The window frame members shall be assembled in a secure and workmanlike manner. A permanently watertight joint shall be made at the junction of the sill and side frame members. Where two or more members are to be installed in a single wall opening, provision shall be made to assemble the abutting frame members into a structurally satisfactory vertical mullion.

**C. SASH.** Sash will be designed for outside compound glazing with either  $\frac{1}{8}$ " or  $\frac{1}{4}$ " glass.

**D. MUNTINS.** The muntin bars shall be firmly secured at the cross-joints and at ends where attached to the abutting sash.

**Hopper Vents**

Hopper vents shall be bottom hinged, in-swinging. Construction and materials shall conform to sash specifications set forth above. Neoprene weatherstrip will be provided to assure complete perimeter weathering.

**Hardware**

Windows shall be equipped with overhead tape balances to permit free operation of sash and balancing mechanism will hold sash stationary at any open position. Balancing mechanism shall be easily accessible. All bottom sash will have continuous bar lift which shall be an integral part of sash. All upper sash of width greater than 3' 0" shall be equipped with two pull-down handles. (At architect's option when meeting rails are over 6' from floor level pull-down handles

will be omitted from upper sash and sash shall be provided with pull-down socket for pole operation.)

**Weatherstripping**

The window is to be equipped with double-contact stainless steel vertical weatherstripping. Horizontal weatherstripping shall be Neoprene extrusions.

**Air Infiltration**

Air infiltration shall not exceed  $\frac{1}{2}$  cubic foot per minute per lineal foot of sash perimeters when subjected to a static air pressure equivalent to the pressure exerted by wind at a velocity of 25 miles per hour. Satisfactory evidence of compliance shall be furnished to the architect.

**Finish**

The exposed surface of all aluminum frames and sash shall be cleaned to make them reasonably uniform in color and free from serious surface blemishes.

**Protective Coating**

**A.** A protective finish of a clear water-white methacrylate lacquer, resistant to alkaline mortar, plaster, etc., shall be applied to all frame and sash members after fabrication, such lacquer to withstand the action of lime mortar for a period of at least one month in an atmosphere of 100% relative humidity at room temperature. Lacquer to be applied to a reasonably clean surface.

**B.** All exposed portions of window shall be cleaned by the owner with soap and water, followed by clear water rinse after the painting and finishing of the building is completed.

**Installation Details**

The window manufacturer shall furnish, in triplicate, standard details showing recommendations for the installation of the windows.

**Erection and Caulking**

The erection contractor shall set all windows straight, plumb and level, shall securely anchor them in place and install them according to the manufacturer's standard recommendations. The caulking contractor shall apply an approved caulking compound in the caulking recess between the caulking stop on the window and the adjacent construction materials.

**Screens**

Aluminum frame screens shall be screened with 18 x 14 mesh aluminum wire cloth. Screens shall be either full or half length, top-hung.

**Window Cleaner Anchors**

Window cleaner anchors of approved type will be furnished (to be installed by others) where specified.

**Shade Brackets**

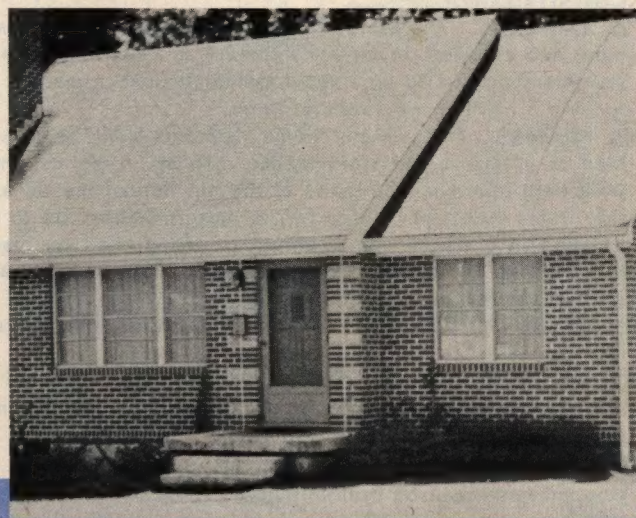
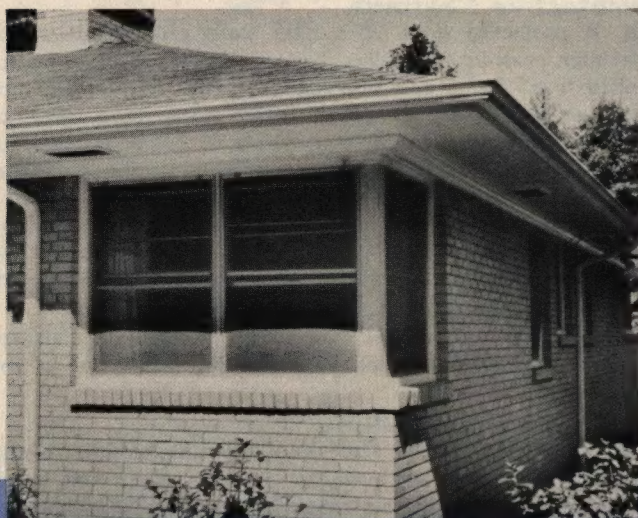
Windows will be drilled for shade brackets (to be furnished and installed by others) where specified.

## INSTALLATION INSTRUCTIONS

1. Install window in locked position and keep it locked while trimming out.
2. Attach two jamb anchors to each jamb. Use jamb anchors to fasten 180° non-load bearing mullioned windows at the head and at the sill. For load bearing mullions use standard jamb anchors with nailing flange bent to 90° and fastened to load bearing pipe or other support behind outside mullion cover plate.
3. Check for plumb and level. Nail anchors to rough frame, install trim and caulk.
4. Keep wood window trim or finished masonry back from outside caulking stops by at least  $\frac{1}{8}$ ", then caulk this space shut.
5. Plaster to the back of inside plaster stop. Remove plaster from all window surface before it hardens.
6. Do not toe-nail trim tight against trim stops.



**typical Metal Art installations**



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